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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/037,785	10/22/2001	Gang Sun	18062G-004100US	6976

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EXAMINER

EINSMANN, MARGARET V

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 06/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/037,785

Applicant(s)

SUN ET AL.

Examiner

Margaret Einsmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 16-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 5. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-15, drawn to a nanoprocesed textile, classified in class 8, subclass 618 and others.
- II. Claims 16-23, drawn to a composition, classified in class 524 and class 252 various subclasses.
- III. Claims 24-29, drawn to method of making a polymer dispersion, classified in class 252, various subclasses.
- IV. Claims 30-34, drawn to a method of dyeing, classified in class 8, subclass 637.1.

The inventions are distinct, each from the other because of the following reasons:

Group I and Group II are distinct compositions. They are related only by the fact they have one component in common: nanoparticles.

Inventions I and either III or IV are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by a materially different process, for example, by the process of Todd, US 6,136,044.

Inventions III and IV are different but related methods since they may have different effects and produce substantially different articles, and group IV requires a colorant while Group III does not.

Inventions II and IV are not related since the process of group IV does not require the dispersion of group II. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for one Group is not required for the other Groups, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for one Group is not required for the other Groups, restriction for examination purposes as indicated is proper.

During a telephone conversation with Joseph R. Snyder on June 3, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-15. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-34 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-13, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Todd, US 6,136,044. Patentee discloses a process of formation of microparticles imbedded in textile fabrics by reducing metals in situ. The metal particles become an integral part of the fiber. See abstract. Column 4 lines 1-22 discloses the process of formation of the particles in situ in and around the textiles. Patentee states, "Because the nucleating agent and the metal ions are smaller than a preformed micro-particle, greater penetration into the fiber and substructure of the textile was achieved by this method

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than by the prior art method of preforming the microparticles before dyeing." The examples illustrate the process. In example 1 beginning in column 5 line 55, six different fabrics were dyed by the process of the invention. They were spun acetate, bleached cotton, spun polyacrylamide, nylon 6.6, spun silk, spun viscose and worsted wool. A gold solution was used in example 2, which precipitated gold microparticles into all of the above named fibers. Regarding the limitation of claim 11, example 7 oxidizes the imbedded metal particles, converting them into metal oxides, as shown by the color changes induced in the fabrics. Regarding the limitation of claim 6, it does not further limit the composition claimed in claim 1; it merely states many well known utilities for any textile product.

Additionally, column 2 lines 30-44 discloses that gold sols have been adsorbed onto textile fibers in the prior art. The term gold sol is defined at col 1 line 49 as submicroscopic particles. Applicant's nanoparticles claimed in claim 8 are 10 micrometers to 1 nanometer, which are the submicroparticles as defined by Todd.

Claims 1-11 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Erskine, US 6,516,633 B1.

Erskine et al., US 6,516,633 B1 discloses silver halide and silver halide encased in glass nanoparticles which are imbedded in textiles. The textiles may be selected from the list in col 6 lines 26 et seq. and include cotton, nylon, polyester and others as claimed and may be fabric, yarn or fiber as disclosed in col 6 lines 4 et seq. Example 2 discloses the formation of nanoparticles in which silica, which is SiO_2 , silicon dioxide, is part of the nanoparticles. Patentee suggests at column 5 lines 62-65 that the textile so

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colored may be used in a drapery. Accordingly, patentee teaches all of the limitations of the claims.

Claims 1-10, 12-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Soane et al., US 2003/0013369.

Soane discloses textile materials with imbedded nanoparticles. Said textiles may be natural or synthetic chosen from the list on page 6 [0093]. The nanoparticles may be selected from the group disclosed on page 2 [0013]. They range in size from 1-1000nm which is inclusive of the range claimed in claim 28; see page 4 [0081]. They may be used in sheets, towels, carpeting, socks etc. as disclosed on page 7 [0099]. Regarding the limitations of claim 15, [0099] discloses antimicrobial finishing, [0102] to [0119] disclose coloration; [0120] discloses anti-UV finishing and specifically Fe_2O_3 as claimed; silver containing particles are disclosed in [0156]. Accordingly all of the limitations of the claims are disclosed.

Claims 1, 2 and 15 rejected under 35 U.S.C. 102(b) as being anticipated by Bauer, US 5,240,466. Bauer teaches impregnating leather with sulfur dye particles of 10 nm to 200 nm, thus forming a nanometer impregnated textile fabric which had sulfur dye coloration. See abstract and col 2 line 57.

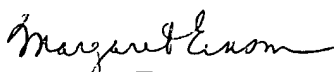
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is 703-308-3826. The examiner can normally be reached on 7:00 AM -4:30 PM M-Th and alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 703-308-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Margaret Einsmann
Primary Examiner
Art Unit 1751

June 5, 2003